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EXAMINER

REDDY, KARUNA P

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

DETAILED ACTION

1. This office action is in response to amendment filed 6/30/2008. Claims 1-24 are cancelled; and claims 32-38 are amended. Accordingly, claims 25-47 are currently pending in the application.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Objections

3. Claims 39-40 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim 36 recites a formula for monomer (I): $(R^1)(R^1)C=C(R^1)-COOH$ while dependent claims 39 and 40 recite anhydrides which do not conform to the formula of monomer(I) recited in claim 36.

Claim Rejections - 35 USC § 112

4. Claims 36-41 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the

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relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 36 recites that polymer of type (i) is obtained by the polymerization of “at least one linear or branched mono-ethylenically unsaturated monomer (II), this monomer not being aromatic”. While there is support for “at least one linear or branched mono-ethylenically unsaturated hydrocarbon monomer (II), this hydrocarbon monomer not being aromatic” and few selected mono-ethylenically unsaturated monomers, there is no support for the monomer (II) in polymer of type (i) to include the broader mono-ethylenically unsaturated monomer which is not aromatic.

Claim Rejections - 35 USC § 102/103

5. Claims 44 and 46-47 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Betremieux et al (US 6, 054, 526).

The rejection is adequately set forth in paragraph 9 of office action mailed 1/28/2008 and incorporated here by reference.

Claim Rejections - 35 USC § 103

6. Claims 25, and 27-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Betremieux et al (US 6, 054, 526) in view of Schwartz et al (US 2001/0007711 A1)

The rejection is adequately set forth in paragraph 10 of office action mailed 1/28/2008 and incorporated here by reference.

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7. Claims 25 and 27-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schwartz et al (US 2001/0007711 A1) in view of Betremieux et al (US 6, 054, 526).

The rejection is adequately set forth in paragraph 11 of office action mailed 1/28/2008 and incorporated here by reference.

8. Claims 26 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schwartz et al (US 2001/0007711 A1) in view of Zuckert et al (EP 305795 A2)

The rejection is adequately set forth in paragraph 12 of office action mailed 1/28/2008 and incorporated here by reference.

Response to Arguments

9. Applicant's arguments, filed 6/30/2008, with respect to objection have been fully considered and are persuasive. The objection of claims 32-38 and 41 has been withdrawn in view of amendments.

10. Applicant's arguments filed 6/30/2008 have been fully considered but they are not persuasive. Specifically, applicant argues that (A) claim 36 has been written in independent format as suggested by the examiner and thus objection of claims 36-41 should be withdrawn; (B) polymers taught in '526 reference do not meet any of the alternative elements of claim 44 (i or ii or iii). Latex polymers of the '526 reference are prepared by polymerizing styrene or a styrene derivative; a (meth)acrylic ester or a mixture of styrene or a styrene derivative and a (meth)acrylic ester. None of these polymers are within the scope of claim 44; (C) examiner refers to amphiphilic oligomers

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in '526 reference and hydrophobic monomers are polymerized in the presence of amphiphilic oligomers. Assuming that the amphiphilic oligomers can be the precursor polymer of element (iii), an issue not conceded by the applicants, then the '526 hydrophobic monomers would have to meet the other criteria of element (ii) and they do not do so; (D) '526 reference teaches preparing a latex by polymerizing one or more monomers in the presence of an amphiphilic oligomer to form a composite latex. The polymers claimed in present claim 44 are an additive which is admixed into an extant latex; (E) '526 reference is heavily biased towards styrene, while the polymer of claim 44 generally avoids aromatic compounds. One of ordinary skill in the art would not be motivated to replace esters disclosed in '526 reference with acids and anhydrides and then also avoid the preferred aromatic embodiments to arrive at the present claim 44. Thus, claim 44 and the claims that depend from claim 44 are not obvious over the '526 reference; (F) the additives of present application may be used in lower concentration as compared to that taught in the '526 reference. In the examples, additive of present application is added at a concentration of about 1 percent and yet outperforms copolymers having a greater aromatic content similar to the compositions disclosed in '526 reference; (G) composite latex of '526 reference is quite different from the water soluble amphiphilic copolymer. The composite latex is prepared by copolymerizing the hydrophobic monomers in the presence of multiple oligomer. In marked contrast, the present applications have a requirement that a sufficient quantity of at least one water-soluble amphiphilic copolymer is added to an aqueous film-forming polymer dispersion; (H) '711 reference while disclosing the use of a coating for concrete molding, does not disclose or suggest the additives claimed in the present application; and (I) method of present application is limited to the use of an additive within a film forming polymer

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dispersion. Also, the polymer dispersion is used to prepare a film on a mineral binder composition such as concrete. The '795 reference is directed to paints, particularly paints for use on roads. One of ordinary skill in the art aware of the very different properties of asphalt and mineral binders such as concrete. One of ordinary skill in the art would not be motivated to use a binder for paints as an additive to facilitate the coating of a mineral binder.

With respect to (A), it is noted that the recitation of anhydrides (claim 39) and maleic anhydride (claim 40) for monomers of formula (I) does not conform to the formula (I) $((R^1)(R^1)C=C(R^1)-COOH)$ recited in independent claim 36.

With respect to (B), claim 44 refers to a composition comprising "aqueous film forming polymer emulsion and at least one water-soluble amphiphilic copolymer, said amphiphilic copolymer being selected from the group consisting of (i) ..., (ii) ... and (iii)...." The alternative elements (i or ii or iii) in claim 44 refer to water-soluble amphiphilic polymer and not latex polymer as alleged by the applicant.

With respect to (C), applicant's allegation that amphiphilic oligomer can be a precursor to element (iii) of claim 44 is without merit, because examiner has not indicated in the previous office action that amphiphilic oligomer is a precursor polymer of element (iii). In fact, applicant's attention is drawn to paragraph 9 of office action mailed 1/28/2008, wherein it is stated that the "amphiphilic oligomer is preferably a copolymer" i.e. amphiphilic oligomer of '526 reference meets the limitation of an amphiphilic copolymer of present claims. In addition, as stated in bridging paragraph (column 1-2) of '526 reference, amphiphilic polymer is referred to as an oligomer for the sake of simplicity.

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With respect to (D), applicant's attention is drawn to column 2, lines 28-31 of '526, where it states that a portion of the starting oligomer fixes to the latex particles and because of this, the latexes are termed composite latexes. Thus, it is clear that the composition is a mixture of latex and amphiphilic oligomer because only a portion of the starting oligomer is fixed to the latex.

With respect to (E), applicant's attention is drawn to column 2, lines 38-46 of '526 reference, where it states that amphiphilic oligomer is preferably a copolymer of hydrophobic and hydrophilic monomers. The hydrophobic monomers include styrenes or derivatives thereof, isobutylene or derivatives thereof, and (meth)acrylic esters. The hydrophilic monomers include (meth)acrylic acid and maleic anhydride. See example 2 where amphiphilic copolymer is formed from styrene (hydrophobic) and maleic anhydride (hydrophilic). Maleic anhydride satisfies the monomer (I) of polymer type (i). Styrene is equivalent and interchangeable with other hydrophobic monomers such as isobutylene or derivatives thereof. Isobutylene satisfies monomer (II) of polymer type (i). Therefore, replacing styrene in example 2 with isobutylene and arriving at the present claim 44 and claims that depend from claim 44 is within the scope of a skilled artisan.

With respect to (F), examiner agrees that examples containing an amphiphilic copolymer of maleic anhydride and isobutylene outperform other amphiphilic copolymers comprising monomers having greater aromatic content. However, data is not commensurate in scope with present claims i.e. while examples are restricted to amphiphilic copolymers, comprising maleic anhydride and isobutylene, in an amount of 1 and 3 percent, claims are directed to amphiphilic copolymers, containing any monethylenically unsaturated monomer that is not aromatic and any ethylenically

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unsaturated monomer of monocarboxylic or polycarboxylic acid or a precursor of carboxylic acids of anhydride, in any amount.

With respect to (G), it is noted that latex copolymer of '526 is a different component from amphiphilic copolymer (i.e. referred to as oligomer for the sake of simplicity) of '526 reference which meet the limitations of a aqueous film forming polymer dispersion and amphiphilic copolymer of present claims.

With respect to (H), one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

With respect to (I), it is the examiner's position that '795 (Zuckert) and present claims are directed to method of using a film forming dispersion i.e. emulsion. While examiner agrees that asphalt alluded to in '711 by referring to road surface, and mineral binders such as concrete of present claims or of '711 reference have different properties, it is the examiner's position that road surface comprises asphalt and/or mineral binders such as concrete.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KARUNA P. REDDY whose telephone number is (571)272-6566. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business

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Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO

Customer Service Representative or access to the automated information system, call

800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/K. P. R./

Examiner, Art Unit 1796

/Vasu Jagannathan/

Supervisory Patent Examiner, Art Unit 1796